AHA: [illegible]

Access DB#

# SEARCH REQUEST FORM

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## Scientific and Technical Information Center

Requester's Full Name: Jon Eric Angell Examiner #: 78697 Date: 8/13/02
Art Unit: 1635 Phone Number 30 605-1165 Serial Number: 09/760,574
Mail Box and Bldg/Room Location: 11E12 - CM1 Results Format Preferred (circle): PAPER DISK E-MAIL
Office 12D15 - CM1

**If more than one search is submitted, please prioritize searches in order of need.**

**********

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: DNA vaccine for farm animals, in particular bovines and porcines

Inventors (please provide full names): Jean-Christophe Audonnet, Laurent Fischer, Simona Barzu-Le-Roux

Earliest Priority Filing Date: 3/20/2000

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

I would like a structure search for the structure of claim 1.

All claims are attached for your convenience. Only claims 1-11, 18-21, 44-55, and 60-63 are pending in the application.

The structure of the formula of claim 1 is used for delivering DNA/nucleic acid of interest to cows or pigs for vaccination purposes.

Please do not hesitate to contact me for any further clarification/guidance

Thanks.

Eric

Jon.Angell@uspto.gov

Edward Hart
Technical Info. Specialist
STIC/Biotech
CM1 6B02 Tel: 305-9203

**********

**STAFF USE ONLY**

Searcher: _____
Searcher Phone #: _____
Searcher Location: _____
Date Searcher Picked Up: 8/14/02
Date Completed: 8/16/02
Searcher Prep & Review Time: _____
Clerical Prep Time: _____
Online Time: _____

PTO-1590 (8-01)

**Type of Search**

NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) _____
Bibliographic _____
Litigation _____
Fulltext _____
Patent Family _____
Other _____

**Vendors and cost where applicable**

STN _____
Dialog _____
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet _____
Other (specify) _____

STRUCTURE SEARCH BY STN



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=> file hcaplus
FILE 'HCAPLUS' ENTERED AT 14:55:32 ON 16 AUG 2002
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FILE COVERS 1907 - 16 Aug 2002 VOL 137 ISS 8
FILE LAST UPDATED: 15 Aug 2002 (20020815/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

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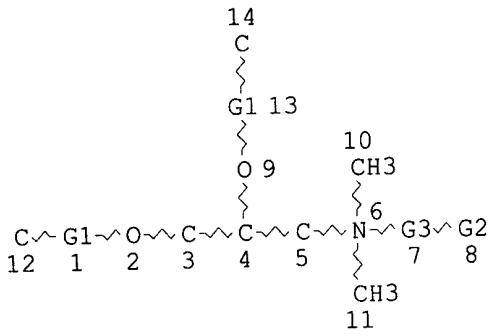


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VAR G2=OH/N
REP G3=(2-3) C
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  14

STEREO ATTRIBUTES: NONE
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L7              STR
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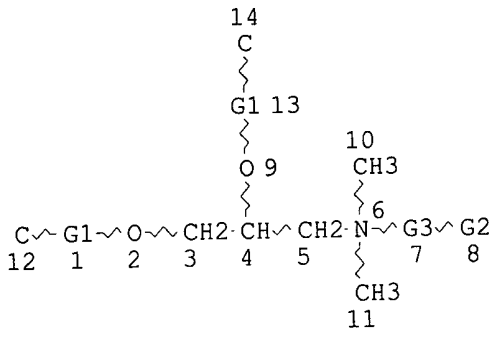


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NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE
L9 109 SEA FILE=REGISTRY SUB=L5 SSS FUL L7
L10 399 SEA FILE=HCAPLUS ABB=ON PLU=ON L9
L11 32 SEA FILE=HCAPLUS ABB=ON PLU=ON L10 AND VACCINE?

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L11 ANSWER 1 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:10302 HCAPLUS
DOCUMENT NUMBER: 136:74555
TITLE: **Vaccine** against foot-and-mouth disease
INVENTOR(S): King, Andrew; Burman, Alison; Audonnet, Jean-Christophe; Lombard, Michel
PATENT ASSIGNEE(S): Merial, Fr.
SOURCE: PCT Int. Appl., 79 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2002000251 | A1 | 20020103 | WO 2001-FR2042 | 20010627 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

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|---|---|---|---|---|---|
| FR 2810888 | A1 | 20020104 | FR 2000-8437 | | 20000629 |
| AU 2001070678 | A5 | 20020108 | AU 2001-70678 | | 20010627 |
| PRIORITY APPLN. INFO.: | | | FR 2000-8437 | A | 20000629 |
| | | | WO 2001-FR2042 | W | 20010627 |

OTHER SOURCE(S): MARPAT 136:74555

AB The invention concerns a **vaccine** against foot-and-mouth disease, using as antigen an efficient amt. of empty capsids of the foot-and-mouth virus, said empty capsids being obtained by expressing, in eukaryotic cells, cDNA of the P1 region of the foot-and-mouth virus genome coding for the capsid and cDNA of the region of the foot-and-mouth virus genome coding for protease 3C, the **vaccine** further comprising a carrier or excipient pharmaceutically acceptable in veterinary medicine. The invention also concerns the insertion of a mutation in the sequence VP2 (introducing a cysteine), thereby stabilizing the empty capsids and the resulting viruses.

IT **153312-64-2**, Dmrie
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**vaccine** against foot-and-mouth disease)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:886529 HCAPLUS
DOCUMENT NUMBER: 136:32635
TITLE: Improved methods of transfection of cells with a receptor targeted vector and uses thereof
INVENTOR(S): Hart, Stephen Lewis
PATENT ASSIGNEE(S): Ich Productions Ltd., UK
SOURCE: PCT Int. Appl., 111 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001092543 | A2 | 20011206 | WO 2001-GB2396 | 20010530 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

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|---|---|---|---|
| PRIORITY APPLN. INFO.: | GB 2000-13089 | A | 20000530 |
| | GB 2000-13090 | A | 20000530 |
| | US 2001-287410P | P | 20010501 |

AB The present invention relates to an improved method of transfecting cells. Transfection of confluent cells or other slowly dividing or non-dividing cells that are in contact with each other with a nucleic acid using a non-viral receptor targeted vector may be improved by the concurrent use of an agent that disrupts cell-cell junctions, esp. EGTA. The vector is esp. an integrin-targeting transfection vector complex comprising (i) a nucleic acid, esp. a nucleic acid encoding a sequence of interest, (ii) an integrin-binding component, esp. an integrin-targeting peptide, (iii) a polycationic nucleic acid-binding component, esp. an oligolysine, and (iv)

a lipid component, esp., DOPE, DOTMA, DOSPA or combinations thereof. Various applications of the improved method of transfection are described.

IT **168479-03-6**, DOSPA
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(improved methods of transfection of cells with a receptor targeted vector and uses thereof)

L11 ANSWER 3 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:886528 HCAPLUS
DOCUMENT NUMBER: 136:32634
TITLE: Integrin-binding peptides and their use in increasing the efficiency of transformation of animal cells in vector **vaccines** for cancer, respiratory and heart diseases
INVENTOR(S): Hart, Stephen Lewis
PATENT ASSIGNEE(S): Ich Productions Ltd., UK
SOURCE: PCT Int. Appl., 108 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001092542 | A2 | 20011206 | WO 2001-GB2394 | 20010530 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

| | | | |
|---|---|---|---|
| PRIORITY APPLN. INFO.: | GB 2000-13089 | A | 20000530 |
| | GB 2000-13090 | A | 20000530 |
| | US 2001-287410P | P | 20010501 |

AB A method of increasing the efficiency of transformation of animal cells by binding the transforming the DNA to integrins is described. Peptides contg. an integrin-binding motif and a polylysine sequence for binding nucleic acid are used to bring the DNA in close contact with the cell. The peptide-nucleic acid complex may be delivered in a liposome. The nucleic acid preferably is or relates to a gene that is the target for gene therapy, gene vaccination or antisense therapy. The integrin binding component comprises an integrin-binding element and a spacer element. The integrin binding element is an integrin binding peptide and contains a cyclic conserved RGD amino acid sequence. The spacer element is a peptide that is longer and/or more hydrophobic than the dipeptide spacers GG (glycine-glycine) and GA (glycine-alanine), contains an .epsilon.-amino hexanoic acid, is the the N terminus of the integrin-binding element and has enhanced transfection activity. The lipid component preferably has membrane destabilizing or fusogenic properties like DOPE, DOTMA, DOSPA or combinations thereof. An embodiment of the present invention provides a ratio of lipid component (DOPE or DOTMA): integrin-binding/polycationic nucleic acid-binding component: nucleic acid of 0.75:4:1 by wt. or 0.5:1.25:0.25 nmol. Furthermore, the present invention provides a ratio of lipid component (DOPE or DOSPA): integrin-binding/polycationic nucleic acid-binding component: nucleic acid of 12:4:1 by wt. Transfection of

confluent cells or other slowly dividing or non-dividing cells that are in contact with each other with a nucleic acid using a non-viral receptor targeted vector may be improved by the concurrent use of an agent that disrupts cell-cell junctions, like the calcium chelator EGTA (at concns. of less than 1 mM) or an antibody like anti-cadherin. The present invention can be used in a **vaccines** for neuroblastoma, leukemias and other cancers as well as for diseases affecting smooth muscle and cardiac muscle tissues as well as for respiratory dieases. These vectors are also useful as a kit for improved transfection activity and they can deliver very large DNA mols. to cells.

IT **158571-62-1**, Lipofectamine **168479-03-6**, DOSPA
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes for nucleic acid delivery contg.; integrin-binding peptides and their use in increasing efficiency of transformation of animal cells in vector **vaccines** for cancer, respiratory and heart diseases)

L11 ANSWER 4 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:798084 HCAPLUS
DOCUMENT NUMBER: 135:348865
TITLE: Compositions and methods for in vivo delivery of polynucleotide-based therapeutics
INVENTOR(S): Hartikka, Jukka; Sukhu, Loretta; Manthorpe, Marston
PATENT ASSIGNEE(S): Vical Incorporated, USA
SOURCE: PCT Int. Appl., 176 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001080897 | A2 | 20011101 | WO 2001-US12975 | 20010423 |
| W: CA, JP, US<br>RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | | |
| US 2002019358 | A1 | 20020214 | US 2001-839574 | 20010423 |
| PRIORITY APPLN. INFO.: | | | US 2000-198823P P | 20000421 |
| | | | US 2000-253153P P | 20001128 |

AB The present invention relates to pharmaceutical compns. and methods to improve expression of exogenous polypeptides into vertebrate cells in vivo, utilizing delivery of polynucleotides encoding such polypeptides. More particularly, the present invention provides the use of salts, in particular sodium and potassium salts of phosphate, in aq. soln., and auxiliary agents, in particular detergents and surfactants, in pharmaceutical compns. and methods useful for direct polynucleotide-based polypeptide delivery into the cells of vertebrates.

IT **153312-64-2**, Dmrie **208040-06-6**, Gap dlrie
**299207-54-8**, Gap-dmorie
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(compns. and methods for in vivo delivery of polynucleotide-based therapeutics)

L11 ANSWER 5 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:791879 HCAPLUS
DOCUMENT NUMBER: 135:335117

TITLE: Immunological adjuvants containing Hemagglutinating virus-containing charged liposomes, and manufacture thereof

INVENTOR(S): Honda, Kazuo; Kaneda, Yasushi; Shiozaki, Koichi

PATENT ASSIGNEE(S): Chemo-Sero-Therapeutic Research Institute, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2001302541 | A2 | 20011031 | JP 2000-128670 | 20000428 |

AB The invention relates to an immunol. adjuvant having immunostimulating effect for low-immunogenic peptide, wherein the adjuvant is a charged liposome consisting of a Sendai virus (Hemagglutinating virus of Japan, HVJ virus) or its envelop glycoprotein, and a lipid component. A HIV-V3 peptide-contg. anionic liposome was prepd. from dimethylaminoethane carbamyl cholesterol, phosphatidylethanolamine, egg yolk phosphatidylcholine, cholesterol, inactivated HVJ virus, and HIV-V3 peptide, and its booster effect was examd. in guinea pigs primarily immunized with HIV-HBc (hepatitis B virus core antigen).

IT **182919-20-6**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(charged liposomes contg. Hemagglutinating virus and lipids as immunol. adjuvants)

L11 ANSWER 6 OF 32 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:545519 HCAPLUS

DOCUMENT NUMBER: 135:142202

TITLE: Improved DNA **vaccines** for livestock

INVENTOR(S): Audonnet, Jean-Christophe Francis; Fischer, Laurent Bernard; Barzu-le-Roux, Simona

PATENT ASSIGNEE(S): Merial, Fr.

SOURCE: PCT Int. Appl., 79 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001052888 | A2 | 20010726 | WO 2001-FR187 | 20010119 |
| WO 2001052888 | A3 | 20011220 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

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|---|---|---|---|---|
| FR 2804028 | A1 | 20010727 | FR 2000-798 | 20000121 |
| US 2002058021 | A1 | 20020516 | US 2001-760574 | 20010116 |

PRIORITY APPLN. INFO.:

| | | |
|---|---|---|
| FR 2000-798 | A | 20000121 |
| US 2000-193126P | P | 20000330 |

OTHER SOURCE(S): MARPAT 135:142202

AB The invention concerns a DNA **vaccine** against a pathogen affecting livestock, in particular cattle and swine, comprising a plasmid contg. a nucleotide sequence coding for an immunogen of a pathogen of the animal species concerned, in conditions enabling the expression in vivo of said sequence, and a cationic lipid contg. a quaternary ammonium salt, of formula R1-O-CH2-CH(OR1)-CH2-N+(CH3)2-R2 X-, wherein: R1 is a linear aliph. radical, satd. or unsatd., having 12 to 18 carbon atoms; R2 is another aliph. radical, contg. 2 or 3 carbon atoms; and X is a hydroxyl or amine group, said lipid being preferably DMRIE.

IT **153312-64-2**, Dmrie
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(improved DNA **vaccines** for livestock)

L11 ANSWER 7 OF 32 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:490587 HCAPLUS
DOCUMENT NUMBER: 135:362424
TITLE: Highly efficient gene delivery by mRNA electroporation in human hematopoietic cells: superiority to lipofection and passive pulsing of mRNA and to electroporation of plasmid cDNA for tumor antigen loading of dendritic cells
AUTHOR(S): Van Tendeloo, Viggo F. I.; Ponsaerts, Peter; Lardon, Filip; Nijs, Griet; Lenjou, Marc; Van Broeckhoven, Christine; Van Bockstaele, Dirk R.; Berneman, Zwi N.
CORPORATE SOURCE: Laboratory of Experimental Hematology, Antwerp University Hospital, University of Antwerp, Antwerp, Belg.
SOURCE: Blood (2001), 98(1), 49-56
CODEN: BLOOAW; ISSN: 0006-4971
PUBLISHER: American Society of Hematology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Designing effective strategies to load human dendritic cells (DCs) with tumor antigens is a challenging approach for DC-based tumor **vaccines**. Here, a cytoplasmic expression system based on mRNA electroporation to efficiently introduce tumor antigens into DCs is described. Preliminary expts. in K562 cells using an enhanced green fluorescent protein (EGFP) reporter gene revealed that mRNA electroporation as compared with plasmid DNA electroporation showed a markedly improved transfection efficiency (89% vs. 40% EGFP+ cells, resp.) and induced a strikingly lower cell toxicity (15% death rate with mRNA vs. 51% with plasmid DNA). Next, mRNA elec. troporation was applied for nonviral transfection of different types of human DCs, including monocyte-derived DCs (Mo-DCs), CD34+ progenitor-derived DCs (34-DCs) and Langerhans cells (34-LCs). High-level transgene expression by mRNA electroporation was obtained in more than 50% of all DC types. MRNA-electroporated DCs retained their phenotype and maturational potential. Importantly, DCs electroporated with mRNA-encoding Melan-A strongly activated a Melan-A-specific cytotoxic T lymphocyte (CTL) clone in an HLA-restricted manner and were superior to mRNA-lipofected or -pulsed DCs. Optimal stimulation of the CTL occurred when Mo-DCs underwent maturation following mRNA transfection. Strikingly, a nonspecific stimulation of CTL was obsd. when DCs were transfected with plasmid DNA. The data clearly demonstrate that Mo-DCs electroporated with mRNA efficiently present functional antigenic peptides to cytotoxic T cells. Therefore, electroporation of mRNA-encoding tumor antigens is a powerful technique to charge human dendritic cells with tumor antigens and could serve applications in future DC-based tumor **vaccines**.

IT **189203-05-2**, DMRIE-C
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(lipofection with; highly efficient gene delivery by mRNA electroporation in human hematopoietic cells for tumor antigen loading of dendritic cells)
REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 8 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:409275 HCAPLUS
DOCUMENT NUMBER: 136:198465
TITLE: Vaxfectin enhances antigen specific antibody titers and maintains Th1 type immune responses to plasmid DNA immunization
AUTHOR(S): Reyes, L.; Hartikka, J.; Bozoukova, V.; Sukhu, L.; Nishioka, W.; Singh, G.; Ferrari, M.; Enas, J.; Wheeler, C. J.; Manthorpe, M.; Wloch, M. K.
CORPORATE SOURCE: Department of Cell Biology, Vical Incorporated, San Diego, CA, 92121, USA
SOURCE: Vaccine (2001), 19(27), 3778-3786
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Antigen specific immune responses were characterized after i.m. immunization of BALB/c mice with 5 antigen encoding plasmid DNAs (pDNAs) complexed with Vaxfectin, a cationic lipid formulation. Vaxfectin increased IgG titers for all of the antigens with no effect on the CTL responses to the 2 antigens for which CTL assays were performed. Both antigen specific IgG1 and IgG2a were increased, although IgG2a remained greater than IgG1. Furthermore, Vaxfectin had no effect on IFN-.gamma. or IL-4 prodn. by splenocytes re-stimulated with antigen, suggesting that the Th1 type responses typical of i.m. pDNA immunization were not altered. Studies with IL-6 -/- mice suggest that the antibody enhancement is IL-6 dependent and results in a correlative increase in antigen specific antibody secreting cells.
IT **370108-99-9**, Vaxfectin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Vaxfectin enhanced antigen-specific antibody titers maintaining Th1 type immune responses to plasmid DNA **vaccines**)
REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 9 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:168152 HCAPLUS
DOCUMENT NUMBER: 134:221435
TITLE: Prevention of myocarditis, abortion and intrauterine infection associated with porcine circovirus-2
INVENTOR(S): Ellis, John Albert; Allan, Gordon Moore; Meehan, Brian; Clark, Edward; Haines, Deborah; Hassard, Lori; Harding, John; Charreyre, Catherine Elisabeth; Chappuis, Gilles Emile; Krakowka, George Steve; Audonnet, Jean-Christophe Francis; McNeilly, Francis
PATENT ASSIGNEE(S): Merial, Fr.; University of Saskatchewan; The Queen's University of Belfast
SOURCE: PCT Int. Appl., 133 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001016330 | A2 | 20010308 | WO 2000-EP8781 | 20000828 |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| BR 2000014155 | A | 20020507 | BR 2000-14155 | 20000828 |
| PRIORITY APPLN. INFO.: | | | US 1999-151564P | P 19990831 |
| | | | US 2000-583350 | A 20000531 |
| | | | WO 2000-EP8781 | W 20000828 |

AB The invention is based on the discovery that porcine circovirus (PCV-2) is a causative agent of myocarditis, abortion and intrauterine infection, as well as post-weaning multisystemic wasting syndrome in pigs. Thus, immunol. compns. contg. the recombinant poxvirus for inducing an immunol. response in aa host animal to which the immunol. compn. is administered. Also described are methods of treating or preventing disease caused by PCV-2 by administering the immunol. compns. of the invention to an animal in need of treatment or susceptible to infection by PCV-2. Such immunol. compns. comprise (1) attenuated or inactivated strains of PCV-2, (2) plasmid vectors expressing open reading frames of PCV-2 and vaccination of pigs with DNA formulated with DMRIE, DMRIE-DOPE, or carbomer adjuvants, and (3) a recombinant poxvirus, such as the canarypox virus (Rentschler strain) contg. foreign DNA encoding the major capsid virus or ORF1 or ORF2 from PCV-2.

IT **153312-64-2**, DMRIE
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(adjuvant; prevention of myocarditis, abortion and intrauterine infection assocd. with porcine circovirus-2)

L11 ANSWER 10 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:167832 HCAPLUS
DOCUMENT NUMBER: 134:212748
TITLE: Lipid-nucleic acid compositions for stimulating cytokine secretion and inducing an immune response
INVENTOR(S): Semple, Sean C.; Harasym, Troy O.; Klimuk, Sandra K.; Kojic, Ljiljiana D.; Bramson, Jonathan L.; Mui, Barbara; Hope, Michael J.
PATENT ASSIGNEE(S): Inex Pharmaceuticals Corp., Can.
SOURCE: PCT Int. Appl., 94 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001015726 | A2 | 20010308 | WO 2000-CA1013 | 20000828 |
| WO 2001015726 | A3 | 20010726 | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, | | | | |

HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

| | | | | |
|---|---|---|---|---|
| BR 2000013834 | A | 20020423 | BR 2000-13834 | 20000828 |
| EP 1212085 | A2 | 20020612 | EP 2000-956004 | 20000828 |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL

| | | |
|---|---|---|
| PRIORITY APPLN. INFO.: | US 2000-176406P | P 20000113 |
| | WO 2000-CA1013 | W 20000828 |

AB Lipid-nucleic acid particles can provide therapeutic benefits, even when the nucleic acid is not complementary to coding sequences in target cells. It has been found that lipid-nucleic acid particles, including those contg. non-sequence specific oligodeoxynucleotides, can be used to stimulate cytokine secretion, thus enhancing the overall immune response of a treated mammal. Further, immune response to specific target antigens can be induced by administration of an antigenic mol. in assocn. with lipid particles contg. non-sequence specific oligodeoxynucleotides. The nucleic acid which is included in the lipid-nucleic acid particle can be a phosphodiester (i.e., an oligodeoxynucleotide consisting of nucleotide residues joined by phosphodiester linkages) or a modified nucleic acid which includes phosphorothioate or other modified linkages, and may suitably be one which is non-complementary to the human genome, such that it acts to provide immunostimulation in a manner which is independent of conventional base-pairing interactions between the nucleic acid and nucleic acids of the treated mammal. In particular, the nucleic acid may suitably contain an immune-stimulating motif such as a CpG motif, or an immune stimulating palindromic sequence. The cationic lipid included in the nucleic acid particles may be suitably selected from among DODAP, DODMA, DMDMA, DOTAP, DC-Chol, DDAB, DODAC, DMRIE, DOSPA and DOGS. In addn., the lipid particle may suitably contain a modified aggregation-limiting lipid such as a PEG-lipid, a PAO-lipid or a ganglioside.

IT **168479-03-6**, DOSPA
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(DOSPA; lipid-nucleic acid compns. for stimulating cytokine secretion and inducing an immune response)

IT **153312-64-2**, DMRIE
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(lipid-nucleic acid compns. for stimulating cytokine secretion and inducing an immune response)

L11 ANSWER 11 OF 32 HCAPLUS COPYRIGHT 2002 ACS

| | |
|---|---|
| ACCESSION NUMBER: | 2001:146642 HCAPLUS |
| DOCUMENT NUMBER: | 135:330213 |
| TITLE: | Vaxfectin enhances the humoral immune response to plasmid DNA-encoded antigens |
| AUTHOR(S): | Hartikka, J.; Bozoukova, V.; Ferrari, M.; Sukhu, L.; Enas, J.; Sawdey, M.; Wloch, M. K.; Tonsky, K.; Norman, J.; Manthorpe, M.; Wheeler, C. J. |
| CORPORATE SOURCE: | Department of Cell Biology, Vical Incorporated, San Diego, CA, 92121, USA |
| SOURCE: | Vaccine (2001), 19(15-16), 1911-1923<br>CODEN: VACCDE; ISSN: 0264-410X |
| PUBLISHER: | Elsevier Science Ltd. |
| DOCUMENT TYPE: | Journal |

LANGUAGE: English

AB This report characterizes Vaxfectin, a novel cationic and neutral lipid formulation which enhances antibody responses when complexed with an antigen-encoding plasmid DNA (pDNA). In mice, i.m. injection of Vaxfectin formulated with pDNA encoding influenza nucleoprotein (NP) increased antibody titers .ltoreq. 20-fold, to levels that could not be reached with pDNA alone. As little as 1 .mu.g of pDNA formulated with Vaxfectin per muscle resulted in higher anti-NP titers than that obtained with 25 .mu.g naked pDNA. The antibody titers in animals injected with Vaxfectin-pDNA remained higher than in the naked pDNA controls for at least 9 mo. The enhancement in antibody titers was dependent on the Vaxfectin dose and was accomplished without diminishing the strong anti-NP cytolytic T cell response typical of pDNA-based **vaccines**. In rabbits, complexing pDNA with Vaxfectin enhanced antibody titers .ltoreq. 50-fold with needle and syringe injections and also augmented humoral responses when combined with a needle-free injection device. Vaxfectin did not facilitate transfection and/or increase synthesis of .beta.-galactosidase reporter protein in muscle tissue. ELISPOT assays performed on bone marrow cells from vaccinated mice showed that Vaxfectin produced a 3- to 5-fold increase in the no. of NP-specific plasma cells. Thus, Vaxfectin should be a useful adjuvant for enhancing pDNA-based vaccinations.

IT **370108-99-9P**, Vaxfectin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(Vaxfectin enhances the humoral immune response to plasmid DNA-encoded antigens)

IT **370108-98-8P**, VC 1052
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(Vaxfectin enhances the humoral immune response to plasmid DNA-encoded antigens)

REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 12 OF 32 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:121937 HCAPLUS

DOCUMENT NUMBER: 135:225548

TITLE: Effects of different transfection reagents on genetic immunization of rabies virus glycoprotein cDNA

AUTHOR(S): Zhang, Mao-lin; Hu, Rong-liang; Yu, Xing-long; Tu, Chang-chun; Qian, Ai-dong; Rong, Ai-hong; Li, Hong-wei; Yin, Zhen

CORPORATE SOURCE: The Militry Veterinary Institute, Quartermaster University of PLA, Changchun, 130062, Peop. Rep. China

SOURCE: Zhongguo Shouyi Xuebao (2000), 20(6), 528-531
CODEN: ZSXUF5; ISSN: 1005-4545

PUBLISHER: Zhongguo Shouyi Xuebao Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB Three rabies virus glycoprotein expressing vectors, pGFP-C1-RGP, pSV2-RGP and pcDNA3-RGP were constructed by cloning rabies virus glycoprotein cDNA into pGFP-C1, pSV2-dhfr and pcDNA3, resp. Expression of all three vectors was confirmed on cells and in newborn mouse brains. The highest expression level was achieved when the rabies virus glycoprotein gene was regulated by CMV promoter/enhancer. After 3 times of inoculations at intervals of 2 wk in the form of naked DNA, DNA-lipofectamine and DNA-PEI complex, specific antibodies against rabies virus were detected in sera of mice by means of ELISA. The antibody titer went up with the increase of the amt. of plasmids injected. However, when the amt. of the plasmid went

beyond 20 .mu.g/mouse, there was no pos. correlation between the dose of DNA injected and the level of immune response when PEI and lipofectamine were used as transfection reagents. The plasmid vaccination could protect mice from the challenge of CVS. Long lasting humoral immune responses were proved with ELISA and PCR amplification 6 mo after the primary inoculation.

IT **158571-62-1**, Lipofectamine
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(effects of different transfection reagents on genetic immunization of rabies virus glycoprotein cDNA)

L11 ANSWER 13 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:101291 HCAPLUS
DOCUMENT NUMBER: 134:161880
TITLE: cDNAs encoding the Flt-3 receptor ligand and there use as adjuvants in vector **vaccines**
INVENTOR(S): Hermanson, Gary George
PATENT ASSIGNEE(S): Vical Inc., USA
SOURCE: PCT Int. Appl., 148 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001009303 | A2 | 20010208 | WO 2000-US20679 | 20000731 |
| WO 2001009303 | A3 | 20010816 | | |

W: CA, JP, US
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRIORITY APPLN. INFO.: US 1999-146170P P 19990730

AB A method of increasing the strength of the immune response of vector **vaccines** using an expression vector for the Flt3 ligand is described. The **vaccines** are made of independent non-integrating expression vectors: one encodes the antigen or a cytokine and the other encodes the Flt3 ligand. The present invention also provides a method broadly directed to improving immune response of a vertebrate in need of immunotherapy by administering in vivo, into a tissue of a vertebrate, a Flt-3 ligand-encoding polynucleotide and one or more antigen- or cytokine-encoding polynucleotides. The polynucleotides are incorporated into the cells of the vertebrate in vivo, and a prophylactically or therapeutically effective amt. of a Flt-3 ligand and one or more antigens is produced in vivo.

IT **153312-64-2**, DMRIE **208040-06-6**, GAP-DLRIE **299207-54-8**, GAP-DMORIE
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(in delivery of vector **vaccines**; cDNAs encoding Flt-3 receptor ligand and there use as adjuvants in vector **vaccines**)

L11 ANSWER 14 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:64121 HCAPLUS
DOCUMENT NUMBER: 134:136654
TITLE: Feline calicivirus genes and **vaccines**, in particular recombined **vaccines**
INVENTOR(S): Audonnet, Jean-Christophe Francis; Baudu, Philippe Guy Nicolas; Brunet, Sylvie Claudine

PATENT ASSIGNEE(S): Merial, Fr.
SOURCE: PCT Int. Appl., 61 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001005934 | A2 | 20010125 | WO 2000-FR2051 | 20000713 |
| WO 2001005934 | A3 | 20010426 | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| FR 2796396 | A1 | 20010119 | FR 1999-9421 | 19990716 |
| FR 2796397 | A1 | 20010119 | FR 2000-1761 | 20000211 |
| AU 2000065765 | A5 | 20010205 | AU 2000-65765 | 20000713 |
| BR 2000012512 | A | 20020402 | BR 2000-12512 | 20000713 |
| EP 1228193 | A2 | 20020807 | EP 2000-953243 | 20000713 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, MC, IE, SI, LT, LV, FI, RO, MK, CY, AL | | | | |

PRIORITY APPLN. INFO.:

| | | |
|---|---|---|
| FR 1999-9421 | A | 19990716 |
| FR 2000-1761 | A | 20000211 |
| WO 2000-FR2051 | W | 20000713 |

OTHER SOURCE(S): MARPAT 134:136654

AB The invention concerns the sequence of the capsid gene and a corresponding cDNA sequence, of a dominant FCV strain called FCV 431. The invention also concerns the capsid gene sequence and the cDNA sequence of a complementary strain called G1. The cDNA sequences can be incorporated in expression vectors for prepg. immunogenic formulations and recombined **vaccines** or subunits providing vaccination against the feline calicivirus disease.

IT **153312-64-2**, Dmrie
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(adjuvant; feline calicivirus genes and **vaccines**)

L11 ANSWER 15 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:900790 HCAPLUS
DOCUMENT NUMBER: 134:55493
TITLE: Porcine circovirus **vaccine**
INVENTOR(S): Audonnet, Jean-christophe Francis; Bublot, Michel; Perez, Jennifer Maria; Charreyre, Catherine Elisabeth

PATENT ASSIGNEE(S): Merial, Fr.
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| WO 2000077188 | A2 | 20001221 | WO 2000-EP5611 | 20000608 |
| WO 2000077188 | A3 | 20010531 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

| | | | | |
|---|---|---|---|---|
| EP 1185659 | A2 | 20020313 | EP 2000-935220 | 20000608 |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

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|---|---|---|---|---|
| BR 2000011733 | A | 20020723 | BR 2000-11733 | 20000608 |

PRIORITY APPLN. INFO.: US 1999-138352P P 19990610
WO 2000-EP5611 W 20000608

OTHER SOURCE(S): MARPAT 134:55493

AB The invention relates to immunogenic prepns. or **vaccines** comprising, on the one hand, a plasmid vector encoding and expressing a gene from porcine circovirus (PCV), in particular selected from the group consisting of ORF1 of PCV-2, ORF2 of PCV-2, ORF1 of PCV-1 and ORF2 of PCV-1, and , on the other hand, an element capable of increasing the immune response directed against the product of expression of the gene, which can be a carbomer, a porcine cytokine, e.g. GM-CSF or a cationic lipid of formula (I), in which R1 is a satd. or unsatd. linear aliph. radical having from 12 to 18 carbon atoms, R2 is another aliph. radical comprising from 2 to 3 carbon atoms, and X is a hydroxyle or amine group. The cationic lipid can be DMRIE, possibly coupled with DOPE. **Vaccines** contg. plasmid vector encoding and expressing a gene from porcine circovirus were prepd. and tested against PMWS.

IT **153312-64-2**, DMRIE
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**vaccine** comprising cationic lipid or neutral lipid; porcine circovirus **vaccine**)

L11 ANSWER 16 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:900679 HCAPLUS
DOCUMENT NUMBER: 134:55491
TITLE: DNA **vaccines** against Paramyxoviridae for pets and game animals and their delivery in liposomes containing cationic lipids
INVENTOR(S): Fischer, Laurent Jean-Charles; Barzu-le, Roux Simona; Audonnet, Jean-Christophe Francis
PATENT ASSIGNEE(S): Merial, Fr.
SOURCE: PCT Int. Appl., 110 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2000077043 | A2 | 20001221 | WO 2000-FR1592 | 20000608 |
| WO 2000077043 | A3 | 20010719 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,

LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD,
SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA,
ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

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|---|---|---|---|---|
| FR 2794648 | A1 | 20001215 | FR 1999-7604 | 19990610 |
| BR 2000011732 | A | 20020305 | BR 2000-11732 | 20000608 |
| EP 1185662 | A2 | 20020313 | EP 2000-940474 | 20000608 |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.:

| | | |
|---|---|---|
| FR 1999-7604 | A | 19990610 |
| US 1999-144490P | P | 19990719 |
| WO 2000-FR1592 | W | 20000608 |

OTHER SOURCE(S): MARPAT 134:55491

AB The invention aims at improving the efficacy and protection induced by DNA vaccination against viruses of the family of Paramyxoviridae and against the herpes virus, in pets and sport animals. The improvement of DNA vaccination is achieved either by formulating the **vaccine** with a cationic lipid contg. a quaternary ammonium salt, DMRIE, or by modifications in the nucleotide sequence coding for the antigen of interest in particular of deletions of the fragment of the nucleotide sequence coding for the transmembrane domain of the antigen of interest, and/or insertions of introns and/or insertions of nucleotide sequences coding for the signal peptides, or by adding GM-CSF, or by combinations thereof. The invention also concerns the resulting **vaccines**. A series of expression vectors for antigen genes of canine distemper virus and felid, canid, and equid herpes viruses that used the signal sequence of a tissue plasminogen activator gene were constructed by std. methods. In some cases, derivs. lacking the transmembrane domain were used to improve secretion of the extracellular domain. Expression vectors also carrying the genes for cytokines, esp. colony-stimulating factor 2 were also constructed. Use of genes for colony-stimulating factor 2 derived from the target host is demonstrated. A combination of vectors carrying genes for the fusion protein and hemagglutinin of canine distemper virus completely protected a group of five dogs challenged with the virus.

IT **153312-64-2**, DMRIE
RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(in liposomes for delivery of DNA **vaccines**; DNA **vaccines** against Paramyxoviridae for pets and game animals and their delivery in liposomes contg. cationic lipids)

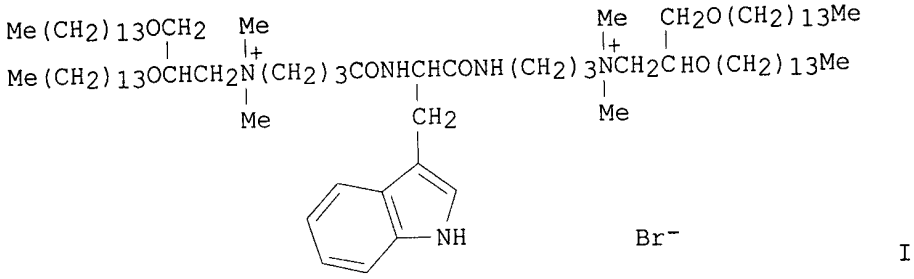
L11 ANSWER 17 OF 32 HCAPLUS COPYRIGHT 2002 ACS

| | |
|---|---|
| ACCESSION NUMBER: | 2000:861646 HCAPLUS |
| DOCUMENT NUMBER: | 134:21482 |
| TITLE: | Cytofectin dimers and methods of use thereof |
| INVENTOR(S): | Wheeler, Carl J. |
| PATENT ASSIGNEE(S): | Vical, Inc., USA |
| SOURCE: | PCT Int. Appl., 50 pp.<br>CODEN: PIXXD2 |
| DOCUMENT TYPE: | Patent |
| LANGUAGE: | English |
| FAMILY ACC. NUM. COUNT: | 1 |

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2000073263 | A1 | 20001207 | WO 2000-US14676 | 20000526 |
| WO 2000073263 | C2 | 20020711 | | |

W: CA, JP, US
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
EP 1183231 A1 20020306 EP 2000-939373 20000526
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
PRIORITY APPLN. INFO.: US 1999-136472P P 19990528
WO 2000-US14676 W 20000526
OTHER SOURCE(S): MARPAT 134:21482
GI



I

AB A compn. is provided comprising a novel cationic lipid compd. having hydrophobic tails and two quaternary ammonium headgroups bridged by a linker. The compn. is useful as a cytofectin for facilitating delivery and transfection of biol. active agents, particularly anionic bioactive agents such as DNA, into cells. The compn. is useful also as an adjuvant for enhancing the humoral immune response of a vertebrate to an immunogen, esp. an immunogen encoded by a polynucleotide-based **vaccine**. In certain preferred embodiments, the cationic lipid compd. is a dimer contg. quaternary ammonium headgroups bridged by a linker having DNA and/or cell receptor binding affinity, such as a polypeptide or polyamine. Also disclosed is an immunogenic compn. comprising an immunogen and the compn. of the present invention. I was prepd. as an example compd.

IT **310445-42-2P 310445-43-3P 310445-44-4P**
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(cationic lipids prepn. as cytofectin for delivery and transfection of biol. agents)

IT **153312-64-2**, Dmrie
RL: RCT (Reactant); RACT (Reactant or reagent)
(cationic lipids prepn. as cytofectin for delivery and transfection of biol. agents)

IT **282533-25-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(cationic lipids prepn. as cytofectin for delivery and transfection of biol. agents)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 18 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:850412 HCAPLUS
DOCUMENT NUMBER: 134:365419
TITLE: Large-scale feasibility of gene transduction into human CD34+ cell-derived dendritic cells by

adenoviral/polycation complex

AUTHOR(S): Di Nicola, Massimo; Carlo-Stella, Carmelo; Milanesi, Marco; Magni, Michele; Longoni, Paolo; Mortarini, Roberta; Anichini, Andrea; Tomanin, Rosella; Scarpa, Maurizio; Gianni, A. Massimo

CORPORATE SOURCE: Division of Medical Oncology, Istituto Nazionale Tumori, Milan, 20133, Italy

SOURCE: British Journal of Haematology (2000), 111(1), 344-350
CODEN: BJHEAL; ISSN: 0007-1048

PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB With a view to using multiple injections of anticancer dendritic cell (DC)-based **vaccines**, we evaluated the feasibility of the adenoviral transduction of large amts. of human CD34+ cell-derived DCs, and analyzed the persistence of the transgene expression and the integrity of DC functional activity after the transduction/cryopreservation procedures. Mature DCs generated from highly enriched human CD34+ cells were transduced by a recombinant adenovirus (rAd-MFG) that carried a modified, membrane-exposed, alk. phosphatase (AP) sequence as the reporter gene. Cationic lipids such as LipofectAmine or poly-L-lysine were mixed with the viral particles before the transduction of the target cells. The highest transduction efficiency was obtained at a multiplicity of infection (MOI) rate of 500 (AP + DCs: 50 .+-. 2%, viability = 95%) under both small- and large-scale conditions. The addn. of poly-L-lysine or LipofectAmine increased the percentage of transduced cells at an MOI of 500 (CD1a+/AP+ cells = 85 .+-. 3% and 80 .+-. 2% resp.). Polycations made it possible to reduce the amts. of viral particles, with high efficiency of transduction being achieved at a MOI of 100 with 10 .mu.g/mL poly-L-lysine (CD1a+/AP+: 68 .+-. 9%) or 30 .mu.g/mL LipofectAmine (CD1a+/AP+: 60 .+-. 7%). Evaluation of the immunophenotype of the transduced DCs showed that the lack of a DC subpopulation was more susceptible to adenoviral transduction. Cryopreservation of transduced DCs did not modify the viability or percentage of AP+ cells that maintain antigen-presenting cell (APC) functions. These findings indicate the efficacy of this method for the transduction of large amts. of CD34+ cell-derived DCs using small quantities of adenoviral vector mixed with polycations. Cryopreservation of transduced DCs did not damage their viability or APC functions, thus making it possible to plan multiple injections of engineered DC-based **vaccines**.

IT **158571-62-1**, LipofectAmine
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(large-scale feasibility of gene transduction into human CD34+ cell-derived dendritic cells by adenoviral/polycation complex)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 19 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:707018 HCAPLUS
DOCUMENT NUMBER: 133:280556
TITLE: Adjuvant compositions and methods for enhancing immune responses to polynucleotide-based **vaccines**

INVENTOR(S): Wheeler, Carl J.
PATENT ASSIGNEE(S): Vical Incorporated, USA

SOURCE: PCT Int. Appl., 72 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2000057917 | A2 | 20001005 | WO 2000-US8282 | 20000324 |
| WO 2000057917 | A3 | 20010104 | | |
| W: CA, JP, US | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| EP 1165140 | A2 | 20020102 | EP 2000-919777 | 20000324 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |

PRIORITY APPLN. INFO.: US 1999-126340P P 19990326
WO 2000-US8282 W 20000324

AB The invention provides adjuvants, immunogenic compns., and methods useful for polynucleotide-based vaccination and immune response. In particular, the invention provides an adjuvant of cytofectin:co-lipid mixt. wherein cytofectin is GAP-DMORIE.

IT **153312-60-8**, DORIE **153312-64-2**, DMRIE
**154486-25-6**, GAP-DMRIE **188949-12-4**, DMORIE
**199171-54-5**, DLRIE **208040-06-6**, GAP-DLRIE
**282533-23-7**, DOSPA **299207-54-8**, GAP-DMORIE
**299207-55-9**, GAP-DPRIE
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(adjuvant compns. contg. cytofectin:co-lipid mixts. and methods for enhancing immune responses to polynucleotide-based **vaccines**)

L11 ANSWER 20 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:580894 HCAPLUS
DOCUMENT NUMBER: 133:155214
TITLE: LipofectAMINE coated hepatitis C virus core gene **vaccine** promotes efficacy of immune responses
AUTHOR(S): Feng, Zhihua; Zhou, Yongxing; Wang, Quanchu; Du, Dewei; Jiao, Chengsong; Li, Jinge; Li, Guangyu
CORPORATE SOURCE: Department of Infectious Diseases, Tangdu Hospital, Fourth Military Medical University, Xi'an, 710038, Peop. Rep. China
SOURCE: Disi Junyi Daxue Xuebao (2000), 21(7), 817-819
CODEN: DJDXEG; ISSN: 1000-2790
PUBLISHER: Disi Junyi Daxue Xuebao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB The efficacy of LipofectAMINE coated recombinant plasmid-contg. hepatitis C virus (HCV) core gene inductive immune responses was studied. The HCV core gene coding region was inserted into the eukaryotic expression plasmid pcDNA3, and then the recombinant plasmid pcDNAHCV-C was constructed and expressed transiently with LipofectAMINE in the SP2/0 cells. After purifn., these plasmids directly or encapsuled with LipofectAMINE were injected into BALB/c mice. HCV core antibody from immunized mice was detected by ELISA. The enzyme-cutting identification showed that HCV core gene fragment was cloned into pcDNA3 eukaryote vectors. HCV C antibody was pos. in sera of 12 mice immunized and was time-dependent. The HCV C antibody titer for core antigen induced by plasmid encapsulated with lipofectamine was higher than of control mice. The results showed that liposome technique combined with gene **vaccine** can promote the efficacy of immune responses in BALB/c mice.

IT **158571-62-1**, Lipofectamine

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(humoral immune response to genetic immunization with hepatitis C core antigen is enhanced by LipofectAMINE encapsulation of plasmid vector)

L11 ANSWER 21 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:573482 HCAPLUS
DOCUMENT NUMBER: 134:146025
TITLE: Effectiveness of combined interleukin 2 and B7.1 vaccination strategy is dependent on the sequence and order: A liposome-mediated gene therapy treatment for bladder cancer
AUTHOR(S): Larchian, William A.; Horiguchi, Yutaka; Nair, Smita K.; Fair, William R.; Heston, Warren D. W.; Gilboa, Eli
CORPORATE SOURCE: Department of Urology, The Cleveland Clinic Foundation, Cleveland, OH, 44195, USA
SOURCE: Clinical Cancer Research (2000), 6(7), 2913-2920
CODEN: CCREF4; ISSN: 1078-0432
PUBLISHER: American Association for Cancer Research
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors have developed a novel liposome-mediated immunogene therapy using interleukin 2 (IL-2) and B7.1 in a murine bladder cancer model. A carcinogen-induced murine bladder cancer cell line, MBT-2, was transfected with cationic liposome 1,2-dimyristyloxypropyl-3-dimethyl-hydroxyethyl ammonium bromide/dioleolylphosphatidylethanolamine and IL-2 plasmid. The optimized transfection condition generated IL-2 levels of 245-305 ng/106 cells/24 h, 100-fold higher than the levels seen with retrovirus transfection. Ninety percent of the peak level of IL-2 prodn. was maintained for up to 11 days after transfection. Animal studies were conducted in C3H/HeJ female mice with 2.times.104 MBT-2 cells implanted orthotopically on day 0. Multiple vaccination schedules were performed with i.p. injection of 5.times.106 IL-2 and/or B7.1 gene-modified cell prepns. The greatest impact on survival was obsd. with the day 5, 10, and 15 regimen. Control animals receiving retrovirally gene-modified MBT-2/IL-2 cell prepns. had a median survival of 29 days. Animals receiving the IL-2 liposomally gene-modified cell prepn. alone had a median survival of 46 days. Seventy-five percent of animals receiving IL-2 followed by B7.1 gene-modified tumor **vaccines** were the only group to show complete tumor-free survival at day 60. All of these surviving animals rejected the parental MBT-2 tumor rechallenge and survived at day 120 with a high CTL response. Thus, liposome-mediated transfection demonstrates a clear advantage as compared with the retroviral system in the MBT-2 model. Multi-agent as opposed to single-agent cytokine gene-modified tumor **vaccines** were beneficial. These "targeted" sequential vaccinations using IL-2 followed by B7.1 gene-modified tumor cells increased a systemic immune response that translated into increased survival.
IT **153312-64-2**, DMRIE
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposome contg.; combined interleukin 2 and B7.1 vaccination strategy in liposome-mediated gene therapy of bladder cancer is dependent on sequence and order)
REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 22 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:811109 HCAPLUS
DOCUMENT NUMBER: 132:69323

TITLE: Prostate-associated antigen composition with chitosan metal chelate for the treatment of prostatic carcinoma
INVENTOR(S): Seid, Christopher Allen; Singh, Gurpreet
PATENT ASSIGNEE(S): Zonagen, Inc., USA
SOURCE: PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9965521 | A1 | 19991223 | WO 1999-US9592 | 19990430 |
| W: AU, CA, CN, JP | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| US 2001014334 | A1 | 20010816 | US 1998-99017 | 19980617 |
| US 6280742 | B2 | 20010828 | | |
| AU 9936737 | A1 | 20000105 | AU 1999-36737 | 19990430 |
| EP 1087786 | A1 | 20010404 | EP 1999-918940 | 19990430 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| JP 2002518345 | T2 | 20020625 | JP 2000-554399 | 19990430 |

PRIORITY APPLN. INFO.: US 1998-99017 A 19980617
WO 1999-US9592 W 19990430

AB The present invention relates generally to materials and methods for redn. and/or alleviation of prostatic and prostatic-related (metatastic) carcinoma via the administration of compns. comprising a prostate-assocd. antigen and a chitosan-metal chelate.

IT **158571-62-1**, Lipofectamine
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(prostate-assocd. antigen compn. with chitosan metal chelate for the treatment of prostatic carcinoma)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 23 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:679109 HCAPLUS
DOCUMENT NUMBER: 132:164839
TITLE: Adjuvants for plasmid DNA **vaccines**
AUTHOR(S): Norman, Jon; Hartikka, Jukka; Strauch, Pamela; Manthorpe, Marston
CORPORATE SOURCE: Vical Inc., San Diego, CA, USA
SOURCE: Methods in Molecular Medicine (2000), 29, 185-196
CODEN: MMMEFN
PUBLISHER: Humana Press Inc.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 38 refs. discussing the effects of the co-injection of bupivacaine (BP), polyvinyl pyrollidone (PVP), or DMRIE:DOPE cationic liposomes on plasmid DNA-mediated luciferase gene expression and antibody responses to influenza nucleoprotein (NP) antigen.

IT **153312-64-2**, DMRIE
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(DMRIE/DOPE liposomes contg.; adjuvants for plasmid DNA **vaccines**)

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 24 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:795154 HCAPLUS
DOCUMENT NUMBER: 130:33989
TITLE: Integrin-targeting vectors having transfection activity
INVENTOR(S): Hart, Stephen Lewis
PATENT ASSIGNEE(S): Institute of Child Health, UK
SOURCE: PCT Int. Appl., 70 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9854347 | A1 | 19981203 | WO 1998-GB1577 | 19980529 |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| AU 9876673 | A1 | 19981230 | AU 1998-76673 | 19980529 |
| EP 1003898 | A1 | 20000531 | EP 1998-924478 | 19980529 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| JP 2002502243 | T2 | 20020122 | JP 1998-550771 | 19980529 |
| US 2002042384 | A1 | 20020411 | US 1999-424656 | 19991129 |

PRIORITY APPLN. INFO.: GB 1997-11115 A 19970529
WO 1998-GB1577 W 19980529

AB A complex that comprises (1) a nucleic acid, (2) an integrin-binding component, for example, an integrin-binding peptide, (3) a polycationic nucleic acid-binding component, for example, oligolysine, and (4) a lipid component, for example, a cationic liposome, has transfection activity. Human neuroblastoma lines cells were transfected with a complex contg. lipofectin, the peptide K16-GACRRETAWACG with a nucleotide-binding domain and an .alpha.5.beta.1 integrin-binding domain, and retroviral vectors expressing interleukin-12 chains. Transfected cells secreted interleukin-12, demonstrating that the transection system is suitable for use in a **vaccine** for neuroblastoma and other cancers.

IT **168479-03-6**, DOSPA
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(integrin-targeting vectors having transfection activity)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 25 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:789045 HCAPLUS
DOCUMENT NUMBER: 130:24103
TITLE: An influenza enveloped DNA **vaccine**
INVENTOR(S): Cusi, Maria Grazia; Gluck, Reinhard; Walti, Ernst
PATENT ASSIGNEE(S): Schweiz. Serum- & Impfinstitut Bern, Switz.
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9852603 | A2 | 19981126 | WO 1998-EP3050 | 19980522 |
| WO 9852603 | A3 | 19990514 | | |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| AU 9879153 | A1 | 19981211 | AU 1998-79153 | 19980522 |
| EP 988052 | A2 | 20000329 | EP 1998-929369 | 19980522 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |

PRIORITY APPLN. INFO.: EP 1997-108390 19970523
WO 1998-EP3050 19980522

AB Described are virosomes comprising cationic lipids, biol. active influenza hemagglutinin protein or biol. active derivs. thereof and nucleic acids encoding antigens from pathogenic sources in their insides, preferably antigens from mumps virus wherein said antigens are derived from conserved external and internal proteins of said virus. Provided are virosomes which may advantageously be formulated as **vaccines** capable of inducing strong neutralizing antibody and cytotoxic T cell responses as well as protection to pathogenic sources such as a mumps virus. Furthermore, **vaccines** comprising recombinant DNA derived from DNA encoding conserved external and internal proteins from mumps virus are described. Mol. cloning of hemagglutinin gene, F gene, and nucleocapsid gene of mumps virus, N gene of respiratory syncytial virus, and S or Pre-S1 or Pre-S2 or S ORF gene of hepatitis B virus was described. Also described were prepn. of DOTAP-PC virosomes and DOTAP-PC-PE virosomes, incorporation of plasmids expressing mumps genes into DOTAP virosomes, humoral and cellular immune response to viral mumps-antigens induced by genetic immunization.

IT **168479-03-6**, DOSPA
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(virosomes comprising cationic lipids, influenza hemagglutinin, and antigen gene of pathogen as DNA **vaccine** for infectious diseases)

L11 ANSWER 26 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:736678 HCAPLUS
DOCUMENT NUMBER: 130:91045
TITLE: Direct gene transfer to the respiratory tract of mice with pure plasmid and lipid-formulated DNA
AUTHOR(S): McCluskie, Michael J.; Chu, Yongliang; Xia, Jiu-Lin; Jessee, Joel; Gebyehu, Gulilat; Davis, Heather L.
CORPORATE SOURCE: Loeb Research Institute, Ottawa, Can.
SOURCE: Antisense & Nucleic Acid Drug Development (1998), 8(5), 401-414
CODEN: ANADF5; ISSN: 1087-2906
PUBLISHER: Mary Ann Liebert, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Direct gene transfer into the respiratory system could be carried out for either therapeutic or immunization purposes. Here we demonstrate that cells in the lung can take up and express plasmid DNA encoding a luciferase reporter gene whether it is administered in naked form or formulated with cationic liposomes. Depending on the lipid used, the transfection efficiency with liposome-formulated DNA may be higher, the same as, or less than that with pure plasmid DNA. Tetramethyltetraalkylspermine analogs with alkyl groups of 16 or 18 carbons and DMRIE/cholesterol formulations proved particularly effective. Similar results for reporter gene expression in the lung were obtained whether the DNA (naked or lipid formulated) was administered by indirect, non-invasive intranasal delivery (inhaled or instilled) or by invasive, direct intratracheal delivery (injected or via a cannula). Reporter gene expression peaks around 4 days, then falls off dramatically by 9 days. The dose-response is linear, at least up to 100 .mu.g plasmid DNA, suggesting better transfection efficiencies might be realized if there was not a vol. limitation. For a given dose of DNA, the best results are obtained when the DNA is mixed with the min. amt. of lipid that can complex it completely. These results are discussed in the context of direct gene transfer for either gene therapy or delivery of a mucosal DNA **vaccine.**

IT **153312-64-2**, DMRIE
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); PROC (Process); USES (Uses)
(direct gene transfer to respiratory tract of mice with pure plasmid and lipid-formulated DNA)

REFERENCE COUNT: 71 THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 27 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:548562 HCAPLUS
DOCUMENT NUMBER: 129:193718
TITLE: Formulation of stabilized cationic transfection agents complexed with nucleic acid particles
INVENTOR(S): Crouzet, Joel; Pitard, Bruno
PATENT ASSIGNEE(S): Rhone-Poulenc Rorer S.A., Fr.
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9834648 | A1 | 19980813 | WO 1998-FR222 | 19980206 |
| W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, GW, HU, ID, IL, IS, JP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| FR 2759298 | A1 | 19980814 | FR 1997-1467 | 19970210 |
| FR 2759298 | B1 | 19990409 | | |
| AU 9862987 | A1 | 19980826 | AU 1998-62987 | 19980206 |
| AU 737720 | B2 | 20010830 | | |
| BR 9807563 | A | 20000201 | BR 1998-7563 | 19980206 |
| EP 1007097 | A1 | 20000614 | EP 1998-906986 | 19980206 |

| | | | | | |
|---|---|---|---|---|---|
| EP 1007097 | B1 | 20011017 | | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, SI, FI | | | | | |
| JP 2001511171 | T2 | 20010807 | JP 1998-533881 | | 19980206 |
| AT 206932 | E | 20011115 | AT 1998-906986 | | 19980206 |
| ES 2166146 | T3 | 20020401 | ES 1998-906986 | | 19980206 |
| ZA 9801034 | A | 19980811 | ZA 1998-1034 | | 19980209 |
| NO 9903825 | A | 19990809 | NO 1999-3825 | | 19990809 |
| PRIORITY APPLN. INFO.: | | | FR 1997-1467 | A | 19970210 |
| | | | WO 1998-FR222 | W | 19980206 |

OTHER SOURCE(S): MARPAT 129:193718

AB The invention concerns a compn. contg. stabilized particles of cationic transfection agent(s)/nucleic acid complexes characterized in that it includes besides said transfection agent and nucleic acid at least a non-ionic surfactant in sufficient amt. for preventing the aggregation of the particles in course of time. In a preferred embodiment, the surfactant is a polyoxyalkylene or a deriv. thereof.

IT **158571-62-1**, Lipofectamine
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(formulation of stabilized cationic transfection agents complexed with nucleic acid particles)

L11 ANSWER 28 OF 32 HCAPLUS COPYRIGHT 2002 ACS

| | |
|---|---|
| ACCESSION NUMBER: | 1998:249878 HCAPLUS |
| DOCUMENT NUMBER: | 129:12373 |
| TITLE: | Transfection of primary tumor cells and tumor cell lines with plasmid DNA/lipid complexes |
| AUTHOR(S): | Stopeck, Alison T.; Hersh, Evan M.; Brailey, Jacqueline L.; Clark, Paul R.; Norman, Jon; Parker, Suezanne E. |
| CORPORATE SOURCE: | Arizona Cancer Center, Tucson, AZ, 85724-5024, USA |
| SOURCE: | Cancer Gene Therapy (1998), 5(2), 119-126<br>CODEN: CGTHEG; ISSN: 0929-1903 |
| PUBLISHER: | Appleton & Lange |
| DOCUMENT TYPE: | Journal |
| LANGUAGE: | English |

AB Cancer **vaccines** that utilize genetically modified tumor cells require gene transfer methods capable of producing immunostimulatory doses of transgenes from fresh or short-term cultures of human tumor cells. Our studies optimize in vitro transfection of primary tumor cells using cationic lipids and a plasmid encoding the gene for human interleukin-2 (IL-2). Established tumor cell lines produced 10- to 100-fold more IL-2 than did fresh or short-term tumor cultures as measured by enzyme-linked immunoabsorbent anal. Importantly, transfection of primary tumor cells produced immunostimulatory levels of IL-2 as detd. by increased thymidine incorporation by autologous peripheral blood mononuclear cells and lymphokine-activated killer cell activity. IL-2 secretion by tumor cells persisted for at least 30 days post-transfection and was unaffected by freeze thawing or irradn. to 8000 rads. Multiple solid tumor types were successfully transfected, but normal blood mononuclear cells and leukemic blasts were resistant to transfection. Enzyme-linked immunoabsorbent anal. of the amt. of IL-2 secreted into the medium by transfected tumor cells correlated with the percentage of tumor cells expressing intracellular IL-2 as measured by flow cytometry. Plasmids utilizing a cytomegalovirus promoter yielded superior transfection efficiencies compared with plasmids contg. a Rous sarcoma virus promoter. These results suggest that a clin. **vaccine** trial using autologous tumor cells genetically modified to secrete IL-2 is feasible in patients

with solid tumors.

IT **153312-64-2**, DMRIE
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(primary tumor cell and tumor cell line transfection with IL-2-encoding plasmid DNA/cationic lipid complexes)

L11 ANSWER 29 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:180751 HCAPLUS
DOCUMENT NUMBER: 128:248559
TITLE: Cationic liposomes with entrapped polynucleotides for use as gene **vaccines**
INVENTOR(S): Gregoriadis, Gregory
PATENT ASSIGNEE(S): School of Pharmacy, UK; Gregoriadis, Gregory
SOURCE: PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9810748 | A1 | 19980319 | WO 1997-GB2490 | 19970915 |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| AU 9742154 | A1 | 19980402 | AU 1997-42154 | 19970915 |
| AU 728581 | B2 | 20010111 | | |
| EP 938298 | A1 | 19990901 | EP 1997-940250 | 19970915 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI | | | | |
| CN 1237102 | A | 19991201 | CN 1997-199674 | 19970915 |
| JP 2001502299 | T2 | 20010220 | JP 1998-513398 | 19970915 |
| KR 2000036088 | A | 20000626 | KR 1999-702103 | 19990312 |

PRIORITY APPLN. INFO.:
GB 1996-19172 A 19960913
GB 1996-25917 A 19961213
GB 1997-13994 A 19970701
WO 1997-GB2490 W 19970915

OTHER SOURCE(S): MARPAT 128:248559

AB Cationic liposomes with entrapped polynucleotide in the intravesicular space are described. The liposomes include cationic components such as cationic lipids such as DOTAP. Preferably the method of forming liposomes uses the dehydration-rehydration method in the presence of the polynucleotide. The polynucleotide preferably operatively encodes an antigen capable of eliciting a desired immune response, i.e., is a gene **vaccine**.

IT **158571-62-1**, Lipofectamine
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(cationic liposomes with entrapped polynucleotides for use as gene **vaccines**)

L11 ANSWER 30 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:473805 HCAPLUS
DOCUMENT NUMBER: 127:175118

TITLE: Development of improved vectors for DNA-based immunization and other gene therapy applications
AUTHOR(S): Norman, Jon A.; Hobart, Peter; Manthorpe, Marston; Felgner, Phil; Wheeler, Carl
CORPORATE SOURCE: Vical Inc., San Diego, CA, 92121, USA
SOURCE: Vaccine (1997), 15(8), 801-803
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Optimizing gene expression and delivery are necessary steps in the prodn. of vectors for DNA-based immunization as well as for other gene therapy applications. A mouse muscle/reporter gene assay system was used to systematically improve a plasmid DNA vector. The optimized vector VR1255 contained: (1) CMV promoter and enhancer; (2) CMV IE Intron A; (3) kanamycin resistance gene; (4) deleted SV40 origin of replication; (5) optimized lux coding region; and (6) a minimal synthetic terminator from the rabbit beta globin gene, mRBG. The vector VR1255 expressed 137 times greater than an earlier prototype RSV-based vector. For plasmid vector delivery into nonmuscle tissues, a recently synthesized cationic lipid, GAP-DLRIE, was found to greatly enhance the uptake and expression of plasmid DNA by 100-fold when instilled into the mouse lung. The time-course of CAT expression with GAP-DLRIE indicated that peak expression occurs 2-5 days after intranasal administration and expression diminished to about one-third the peak value by day 21. This cationic lipid may be useful for immunization by pulmonary and perhaps other nonmuscle routes.

IT **182919-20-6P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(development of improved vectors for DNA-based immunization and other gene therapy applications)

L11 ANSWER 31 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:429591 HCAPLUS
DOCUMENT NUMBER: 127:49213
TITLE: Novel non-pyrogenic bacterial strains and use of the same
INVENTOR(S): Hone, David M.; Powell, Robert J.
PATENT ASSIGNEE(S): University of Maryland At Baltimore, USA; Hone, David M.; Powell, Robert J.
SOURCE: PCT Int. Appl., 124 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9718837 | A1 | 19970529 | WO 1996-US19875 | 19961122 |

W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

| | | | | |
|---|---|---|---|---|
| AU 9722784 | A1 | 19970611 | AU 1997-22784 | 19961122 |
| EP 841941 | A1 | 19980520 | EP 1996-945937 | 19961122 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| US 5997881 | A | 19991207 | US 1997-802371 | 19970219 |
| PRIORITY APPLN. INFO.: | | | US 1995-7478P | P 19951122 |
| | | | WO 1996-US19875 | W 19961122 |

AB The present invention provides gram-neg. bacterial strains that produce substantially pure non-pyrogenic lipopolysaccharide or lipid A. The present invention also relates to a use of said strains for the prepn. of non-pyrogenic DNA and use of the same for introducing endogenous or foreign genes into animal cells or animal tissue. Further, the present invention relates to a use of said strains for the prepn. of non-pyrogenic bacterial proteins and polysaccharides antigens for use as **vaccines.**

IT **168479-03-6**
RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(non-pyrogenic bacterial strains producing non-pyrogenic lipid A for delivery **vaccine** genes or DNA into animal cell or tissue)

L11 ANSWER 32 OF 32 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:590320 HCAPLUS
DOCUMENT NUMBER: 125:212664
TITLE: Combined therapeutic treatment of hyperproliferative diseases using oncogenic cell-signaling pathway-inhibiting nucleic acids and anticancer agents
INVENTOR(S): Tocque, Bruno
PATENT ASSIGNEE(S): Rhone-Poulenc Rorer S.A., Fr.
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9622101 | A1 | 19960725 | WO 1996-FR56 | 19960112 |
| W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TT, UA, UG, US, UZ, VN | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| FR 2729295 | A1 | 19960719 | FR 1995-436 | 19950117 |
| FR 2729295 | B1 | 19970228 | | |
| CA 2209771 | AA | 19960725 | CA 1996-2209771 | 19960112 |
| AU 9645429 | A1 | 19960807 | AU 1996-45429 | 19960112 |
| AU 716364 | B2 | 20000224 | | |
| EP 800399 | A1 | 19971015 | EP 1996-901387 | 19960112 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, SI | | | | |
| BR 9606969 | A | 19971104 | BR 1996-6969 | 19960112 |
| JP 10512559 | T2 | 19981202 | JP 1996-522078 | 19960112 |
| NO 9703197 | A | 19970709 | NO 1997-3197 | 19970709 |
| FI 9703023 | A | 19970716 | FI 1997-3023 | 19970716 |
| US 6262032 | B1 | 20010717 | US 1997-875222 | 19970717 |
| US 2001021395 | A1 | 20010913 | US 2001-816144 | 20010326 |
| PRIORITY APPLN. INFO.: | | | FR 1995-436 | A 19950117 |
| | | | WO 1996-FR56 | W 19960112 |
| | | | US 1997-875222 | A1 19970717 |

OTHER SOURCE(S): MARPAT 125:212664
AB Hyperproliferative diseases are treated with a medicinal combination of .gtoreq.1 nucleic acids that at least partially inhibit oncogenic cell signaling pathways, and a therapeutic anticancer agent. The nucleic acid is e.g. a DNA coding for a tumor suppressor protein. The anticancer agent may be a taxoid, vinca alkaloid, etc.
IT **158571-62-1**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hyperproliferative disease combined therapeutic treatment with oncogenic cell-signaling pathway-inhibiting nucleic acids and anticancer agents)

=> sel hit rn
E1 THROUGH E19 ASSIGNED

=> file reg
FILE 'REGISTRY' ENTERED AT 14:56:02 ON 16 AUG 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.


STRUCTURE FILE UPDATES: 15 AUG 2002 HIGHEST RN 444046-42-8
DICTIONARY FILE UPDATES: 15 AUG 2002 HIGHEST RN 444046-42-8

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

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1 168479-03-6/BI
(168479-03-6/RN)
1 208040-06-6/BI
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1 299207-54-8/BI
(299207-54-8/RN)
1 182919-20-6/BI
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(370108-98-8/RN)

L12 19 (153312-64-2/BI OR 158571-62-1/BI OR 168479-03-6/BI OR 208040-06-6/BI OR 299207-54-8/BI OR 182919-20-6/BI OR 370108-99-9/BI OR 153312-60-8/BI OR 154486-25-6/BI OR 188949-12-4/BI OR 189203-05-2/BI OR 199171-54-5/BI OR 282533-23-7/BI OR 282533-25-9/BI OR 299207-55-9/BI OR 310445-42-2/BI OR 310445-43-3/BI OR 310445-44-4/BI OR 370108-98-8/BI)

=> d ide can l12 tot

L12 ANSWER 1 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **370108-99-9** REGISTRY
CN 1-Propanaminium, N-(3-aminopropyl)-N,N-dimethyl-2,3-bis[(9Z)-9-tetradecenyloxy]-, bromide, mixt. with (1R)-1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl bis(3,7,11,15-tetramethylhexadecanoate) (1:1) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Hexadecanoic acid, 3,7,11,15-tetramethyl-, (1R)-1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester, mixt. contg. (9CI)
OTHER NAMES:
CN Vaxfectin
FS STEREOSEARCH
MF C45 H90 N O8 P . C36 H73 N2 O2 . Br
CI MXS
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

CM 1

CRN 370108-98-8
CMF C36 H73 N2 O2 . Br

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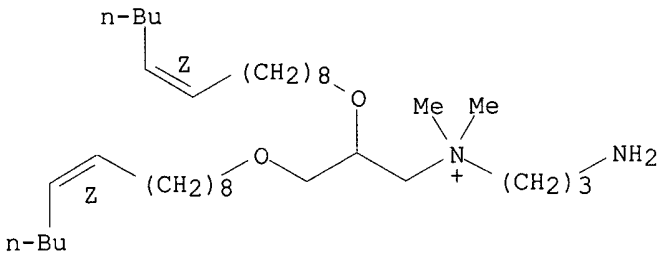
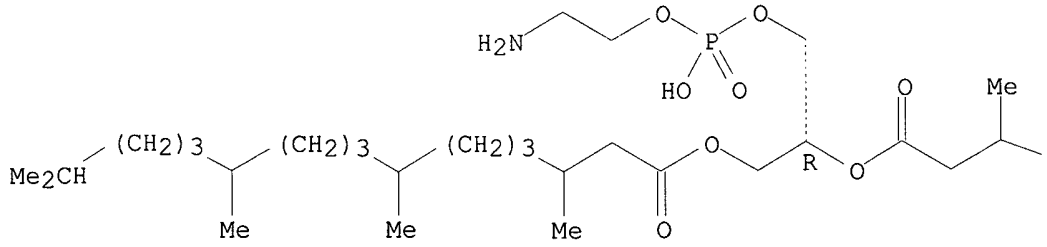


CM 2

CRN 201036-16-0
CMF C45 H90 N O8 P

Absolute stereochemistry.

PAGE 1-A



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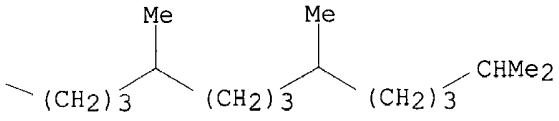

2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:198465

REFERENCE 2: 135:330213

L12 ANSWER 2 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **370108-98-8** REGISTRY
CN 1-Propanaminium, N-(3-aminopropyl)-N,N-dimethyl-2,3-bis[(9Z)-9-tetradecenyloxy]-, bromide (9CI) (CA INDEX NAME)
OTHER NAMES:
CN VC 1052

FS STEREOSEARCH
MF C36 H73 N2 O2 . Br
CI COM
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

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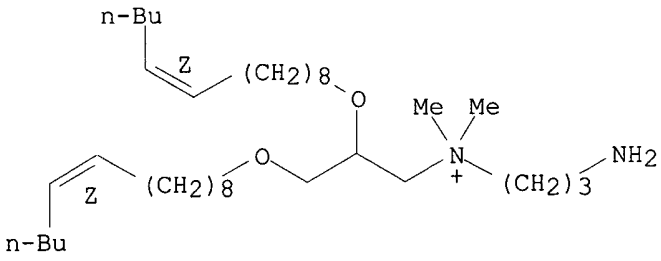


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1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:330213

L12 ANSWER 3 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **310445-44-4** REGISTRY
CN 16-Oxa-4,7-diaza-12-azoniatriacontan-1-aminium, N-[2,3-bis(tetradecyloxy)propyl]-6-(1H-indol-3-ylmethyl)-N,N,12,12-tetramethyl-5,8-dioxo-14-(tetradecyloxy)-, dibromide, (6S)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
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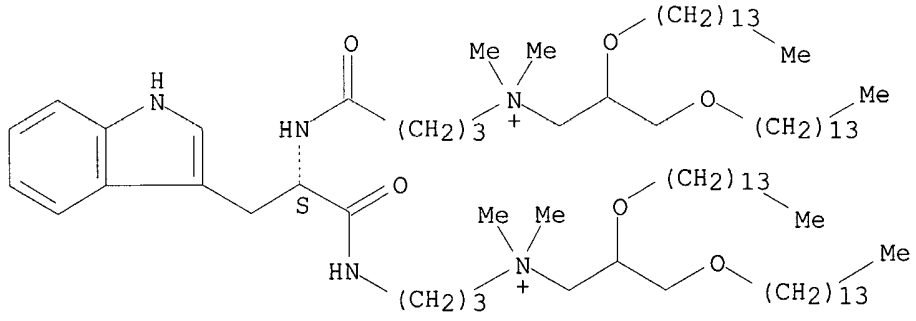
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

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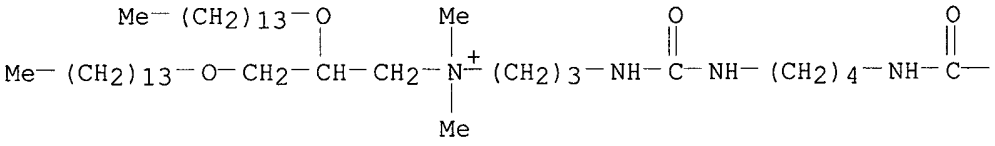
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 134:21482

L12 ANSWER 4 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **310445-43-3** REGISTRY
CN 4,6,11,13-Tetraazahexadecane-1,16-diaminium, N,N'-bis[2,3-bis(tetradecyloxy)propyl]-N,N,N',N'-tetramethyl-5,12-dioxo- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C78 H162 N6 O6
SR CA
LC STN Files: CA, CAPLUS

PAGE 1-A



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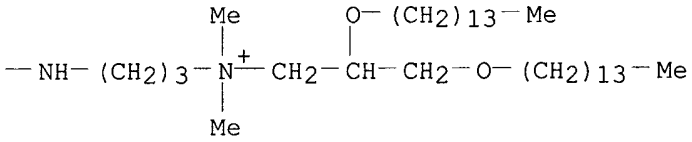

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1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 134:21482

L12 ANSWER 5 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **310445-42-2** REGISTRY
CN 4,6,13,15-Tetraazaoctadecane-1,18-diaminium, N,N'-bis[2,3-bis(tetradecyloxy)propyl]-N,N,N',N'-tetramethyl-5,14-dioxo- (9CI) (CA INDEX NAME)
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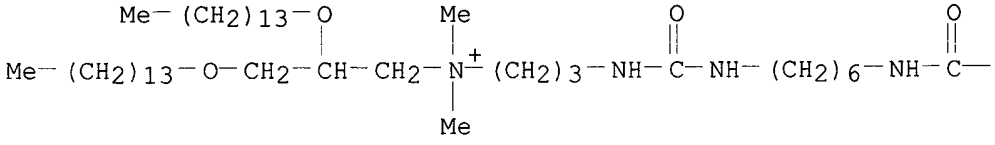
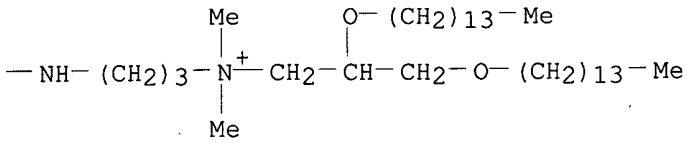
SR CA
LC STN Files: CA, CAPLUS

PAGE 1-A





1 REFERENCES IN FILE CA (1967 TO DATE)
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REFERENCE 1: 134:21482

L12 ANSWER 6 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **299207-55-9** REGISTRY
CN 1-Propanaminium, N-(2-aminoethyl)-2,3-bis(hexadecyloxy)-N,N-dimethyl-, bromide (9CI) (CA INDEX NAME)
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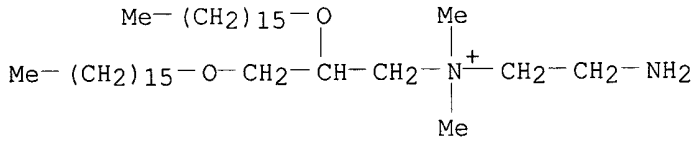
MF C39 H83 N2 O2 . Br
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 133:280556

L12 ANSWER 7 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **299207-54-8** REGISTRY
CN 1-Propanaminium, N-(2-aminoethyl)-N,N-dimethyl-2,3-bis[(9Z)-9-tetradecenyloxy]-, bromide (9CI) (CA INDEX NAME)
OTHER NAMES:
CN GAP-DMORIE
FS STEREOSEARCH
MF C35 H71 N2 O2 . Br
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

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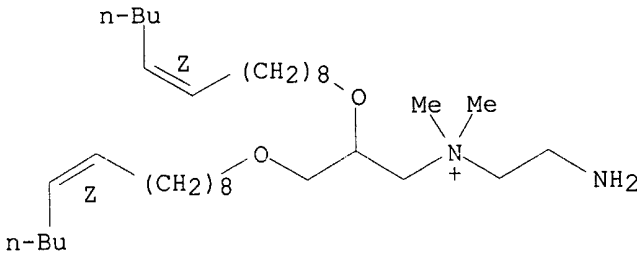

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3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:348865

REFERENCE 2: 134:161880

REFERENCE 3: 133:280556

L12 ANSWER 8 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **282533-25-9** REGISTRY
CN 1-Propanaminium, N-(3-aminopropyl)-N,N-dimethyl-2,3-bis(tetradecyloxy)-, bromide (9CI) (CA INDEX NAME)
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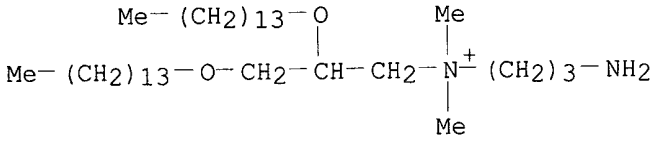
SR CA
LC STN Files: CA, CAPLUS
CRN (191980-83-3)



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3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:142076

REFERENCE 2: 134:21482

REFERENCE 3: 133:103732

L12 ANSWER 9 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **282533-23-7** REGISTRY
CN 1-Propanaminium, N-[2-[[2,5-bis[(3-aminopropyl)amino]-1-oxopentyl]amino]ethyl]-N,N-dimethyl-2,3-bis[(9Z)-9-octadecenyloxy]-, chloride, tetrahydrochloride (9CI) (CA INDEX NAME)

OTHER NAMES:
CN DOSPA
FS STEREOSEARCH
MF C54 H111 N6 O3 . 4 Cl H . Cl
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

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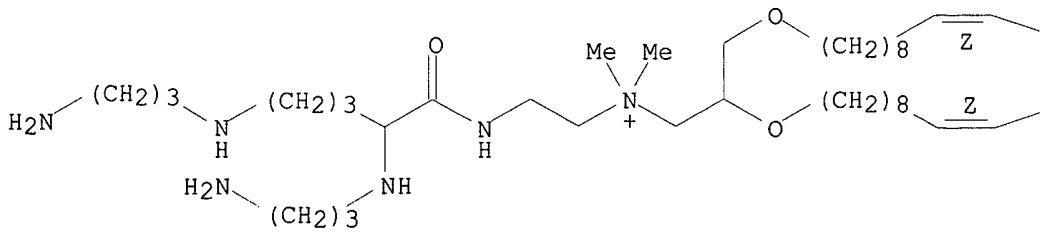
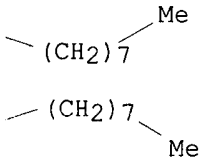
PAGE 1-A



● $Cl^-$

● 4 HCl

PAGE 1-B



4 REFERENCES IN FILE CA (1967 TO DATE)
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REFERENCE 1: 136:314910

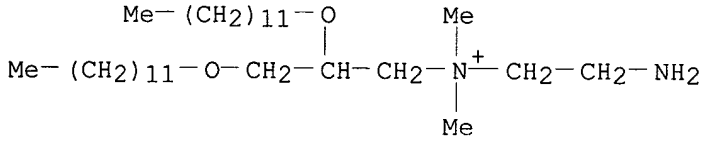
REFERENCE 2: 133:340208

REFERENCE 3: 133:280556

REFERENCE 4: 133:103732

L12 ANSWER 10 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **208040-06-6** REGISTRY
CN 1-Propanaminium, N-(2-aminoethyl)-2,3-bis(dodecyloxy)-N,N-dimethyl-, bromide (9CI) (CA INDEX NAME)
OTHER NAMES:
CN GAP-DLRIE
MF C31 H67 N2 O2 . Br

SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL



● $Br^-$

5 REFERENCES IN FILE CA (1967 TO DATE)
5 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:348865

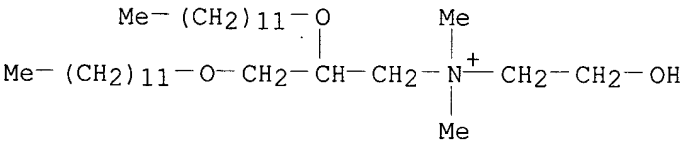
REFERENCE 2: 134:161880

REFERENCE 3: 133:340208

REFERENCE 4: 133:280556

REFERENCE 5: 129:32388

L12 ANSWER 11 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **199171-54-5** REGISTRY
CN 1-Propanaminium, 2,3-bis(dodecyloxy)-N-(2-hydroxyethyl)-N,N-dimethyl-, bromide (9CI) (CA INDEX NAME)
OTHER NAMES:
CN DLRIE
MF C31 H66 N O3 . Br
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL



● $Br^-$

7 REFERENCES IN FILE CA (1967 TO DATE)
7 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:142076

REFERENCE 2: 133:340208

REFERENCE 3: 133:280556

REFERENCE 4: 133:103732

REFERENCE 5: 132:298688

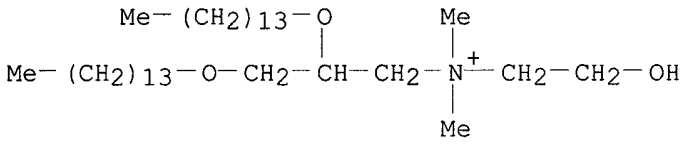
REFERENCE 6: 131:14825

REFERENCE 7: 128:16429

L12 ANSWER 12 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **189203-05-2** REGISTRY
CN Cholest-5-en-3-ol (3.beta.)-, mixt. with N-(2-hydroxyethyl)-N,N-dimethyl-2,3-bis(tetradecyloxy)-1-propanaminium bromide (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1-Propanaminium, N-(2-hydroxyethyl)-N,N-dimethyl-2,3-bis(tetradecyloxy)-, bromide, mixt. contg. (9CI)
OTHER NAMES:
CN Cholesterol mixt. with DMRIE
CN DMRIE-C
CN DMRIE-cholesterol mixt.
FS STEREOSEARCH
MF C35 H74 N O3 . C27 H46 O . Br
CI MXS
SR CA
LC STN Files: BIOSIS, CA, CAPLUS, TOXCENTER, USPATFULL

CM 1

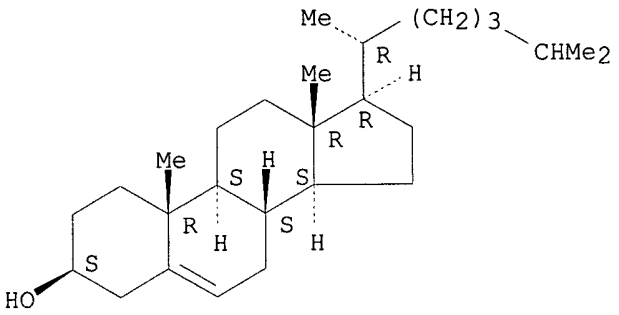
CRN 153312-64-2 (191980-81-1)
CMF C35 H74 N O3 . Br



CM 2

CRN 57-88-5
CMF C27 H46 O

Absolute stereochemistry.




30 REFERENCES IN FILE CA (1967 TO DATE)
30 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:72660

REFERENCE 2: 136:350922

REFERENCE 3: 136:227908

REFERENCE 4: 136:172607

REFERENCE 5: 136:42689

REFERENCE 6: 136:328

REFERENCE 7: 135:362424

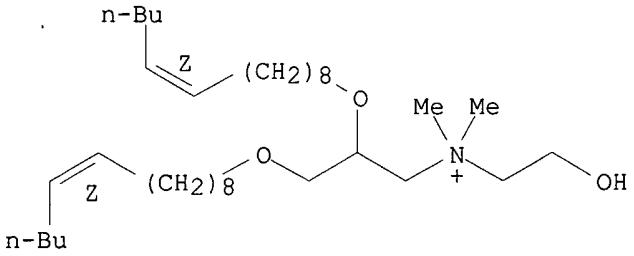
REFERENCE 8: 135:262092

REFERENCE 9: 135:41420

REFERENCE 10: 135:14107

L12 ANSWER 13 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **188949-12-4** REGISTRY
CN 1-Propanaminium, N-(2-hydroxyethyl)-N,N-dimethyl-2,3-bis[(9Z)-9-tetradecenyloxy]-, bromide (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1-Propanaminium, N-(2-hydroxyethyl)-N,N-dimethyl-2,3-bis(9-tetradecenyloxy)-, bromide, (Z,Z)-
OTHER NAMES:
CN DMORIE
FS STEREOSEARCH
MF C35 H70 N O3 . Br
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Double bond geometry as shown.



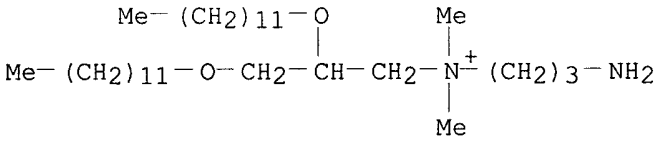
● $Br^-$

2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 133:280556

REFERENCE 2: 126:282608

L12 ANSWER 14 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **182919-20-6** REGISTRY
CN 1-Propanaminium, N-(3-aminopropyl)-2,3-bis(dodecyloxy)-N,N-dimethyl-, bromide (9CI) (CA INDEX NAME)
MF C32 H69 N2 O2 . Br
CI COM
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
CRN (191980-99-1)



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11 REFERENCES IN FILE CA (1967 TO DATE)
11 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:335117

REFERENCE 2: 135:142076

REFERENCE 3: 133:291661

REFERENCE 4: 133:103732

REFERENCE 5: 131:18016

REFERENCE 6: 131:14825

REFERENCE 7: 129:99906

REFERENCE 8: 127:175118

REFERENCE 9: 127:103864

REFERENCE 10: 125:338808

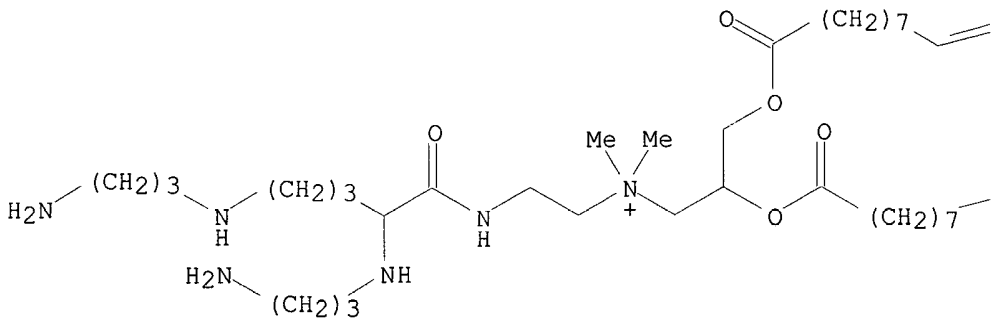
L12 ANSWER 15 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **168479-03-6** REGISTRY
CN 1-Propanaminium, N-[2-[[2,5-bis[(3-aminopropyl)amino]-1-oxopentyl]amino]ethyl]-N,N-dimethyl-2,3-bis[[(9Z)-1-oxo-9-octadecenyl]oxy]-, salt with trifluoroacetic acid (1:1) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2,3-Dioleoyloxy-N-[2-(sperminecarboxamido)ethyl]-N,N-dimethyl-1-propanaminium trifluoroacetate
CN DOSPA
FS STEREOSEARCH
DR 163046-76-2
MF C54 H107 N6 O5 . C2 F3 O2
CI COM
SR CA
LC STN Files: BIOBUSINESS, CA, CAPLUS, TOXCENTER, USPATFULL

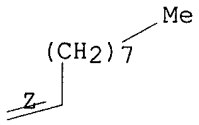
CM 1

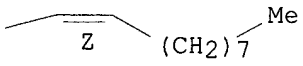
CRN 168479-02-5
CMF C54 H107 N6 O5

Double bond geometry as shown.

PAGE 1-A

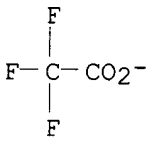






CM 2

CRN 14477-72-6
CMF C2 F3 O2



65 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
65 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:83640

REFERENCE 2: 137:57284

REFERENCE 3: 136:336176

REFERENCE 4: 136:314966

REFERENCE 5: 136:307351

REFERENCE 6: 136:195950

REFERENCE 7: 136:123632

REFERENCE 8: 136:32635

REFERENCE 9: 136:32634

REFERENCE 10: 136:97

L12 ANSWER 16 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **158571-62-1** REGISTRY
CN 1-Propanaminium, N-[3-[[3-[[4-[(3-aminopropyl)amino]butyl]amino]propyl]amino]-3-oxopropyl]-N,N-dimethyl-2,3-bis[[(9Z)-1-oxo-9-octadecenyl]oxy]-, salt with trifluoroacetic acid (1:1), mixt. with 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl

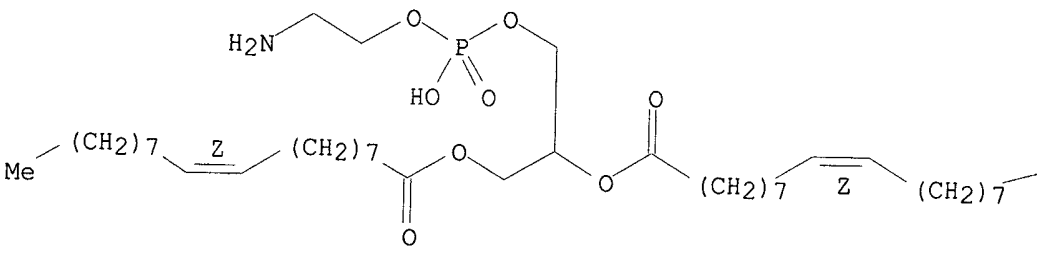
di-(9Z)-9-octadecenoate (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1-Propanaminium, N-[3-[[3-[[4-[(3-aminopropyl)amino]butyl]amino]propyl]amino]-3-oxopropyl]-N,N-dimethyl-2,3-bis[(1-oxo-9-octadecenyl)oxy]-, (Z,Z)-, salt with trifluoroacetic acid (1:1), mixt. with (Z,Z)-1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl di-9-octadecenoate
CN 9-Octadecenoic acid (9Z)-, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester, mixt. contg. (9CI)
CN 9-Octadecenoic acid (Z)-, 2-deoxy-2-[(1-oxododecyl)amino]-, 1-[[[(2-aminoethoxy)hydroxyphosphinyl]oxy]methyl]-1,2-ethanediyl ester, mixt. contg.
OTHER NAMES:
CN LipofectAMINE
FS STEREOSEARCH
MF C54 H106 N5 O5 . C41 H78 N O8 P . C2 F3 O2
CI MXS
SR CA
LC STN Files: AGRICOLA, BIOSIS, BIOTECHNO, CA, CAPLUS, CIN, EMBASE, IPA, TOXCENTER, USPAT2, USPATFULL

CM 1

CRN 2462-63-7
CMF C41 H78 N O8 P

Double bond geometry as shown.

PAGE 1-A




PAGE 1-B

Me

CM 2

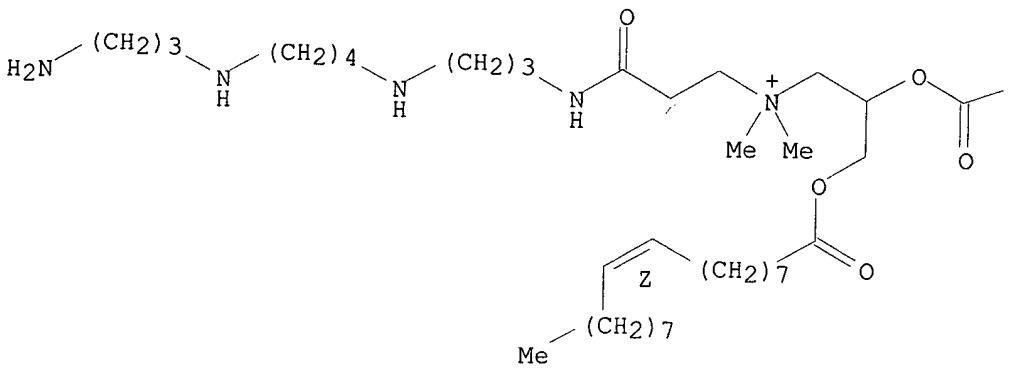
CRN 185097-43-2
CMF C54 H106 N5 O5 . C2 F3 O2

CM 3

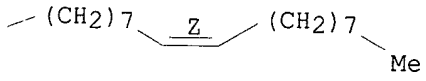
CRN 181508-68-9
CMF C54 H106 N5 O5

Double bond geometry as shown.

PAGE 1-A

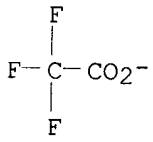


PAGE 1-B



CM 4

CRN 14477-72-6
CMF C2 F3 O2



221 REFERENCES IN FILE CA (1967 TO DATE)
8 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
221 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:92454

REFERENCE 2: 137:83524

REFERENCE 3: 137:76688

REFERENCE 4: 137:72673

REFERENCE 5: 137:68056

REFERENCE 6: 137:58112

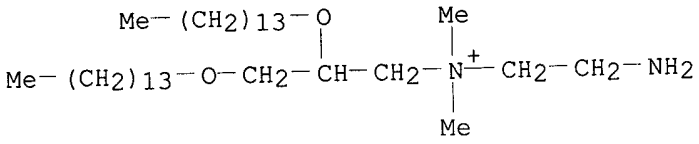
REFERENCE 7: 137:57284

REFERENCE 8: 137:42288

REFERENCE 9: 137:32101

REFERENCE 10: 137:1159

L12 ANSWER 17 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **154486-25-6** REGISTRY
CN 1-Propanaminium, N-(2-aminoethyl)-N,N-dimethyl-2,3-bis(tetradecyloxy)-, bromide (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1-Propanaminium, N-(2-aminoethyl)-N,N-dimethyl-2,3-bis(tetradecyloxy)-, bromide, (.+-.)-
OTHER NAMES:
CN GAP-DMRIE
MF C35 H75 N2 O2 . Br
SR CAS Registry Services
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
CRN (191980-79-7)



● $Br^-$

5 REFERENCES IN FILE CA (1967 TO DATE)
5 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 133:280556

REFERENCE 2: 133:103732

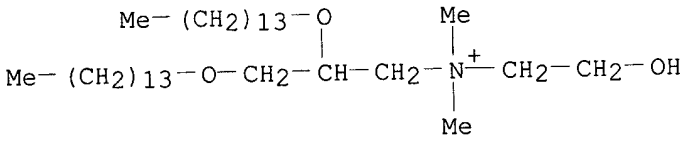
REFERENCE 3: 131:18016

REFERENCE 4: 129:36461

REFERENCE 5: 124:279113

L12 ANSWER 18 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **153312-64-2** REGISTRY
CN 1-Propanaminium, N-(2-hydroxyethyl)-N,N-dimethyl-2,3-bis(tetradecyloxy)-, bromide (9CI) (CA INDEX NAME)
OTHER NAMES:
CN DMRIE
CN N-[1-(2,3-Ditetradecyloxy)propyl]-N,N-dimethyl-N-hydroxyethylammonium bromide
DR 146659-77-0
MF C35 H74 N O3 . Br
CI COM
SR CA
LC STN Files: BIOSIS, CA, CANCERLIT, CAPLUS, IPA, MEDLINE, TOXCENTER, USPATFULL

CRN (191980-81-1)



● $Br^-$

110 REFERENCES IN FILE CA (1967 TO DATE)
6 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
110 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:390857

REFERENCE 2: 136:336176

REFERENCE 3: 136:268001

REFERENCE 4: 136:195950

REFERENCE 5: 136:123632

REFERENCE 6: 136:107481

REFERENCE 7: 136:74555

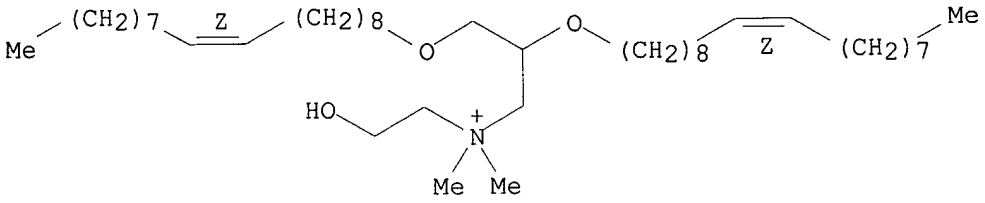
REFERENCE 8: 136:58784

REFERENCE 9: 136:58673

REFERENCE 10: 135:370419

L12 ANSWER 19 OF 19 REGISTRY COPYRIGHT 2002 ACS
RN **153312-60-8** REGISTRY
CN 1-Propanaminium, N-(2-hydroxyethyl)-N,N-dimethyl-2,3-bis[(9Z)-9-octadecenyloxy]-, bromide (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1-Propanaminium, N-(2-hydroxyethyl)-N,N-dimethyl-2,3-bis(9-octadecenyloxy)-, bromide, (Z,Z)-
OTHER NAMES:
CN DORIE
FS STEREOSEARCH
MF C43 H86 N O3 . Br
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
CRN (153985-18-3)

Double bond geometry as shown.




● $Br^-$

4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 133:355219

REFERENCE 2: 133:280556

REFERENCE 3: 133:103732

REFERENCE 4: 120:153003